UNIVERSITY OF JOHANNESBURG

FACULTY OF SCIENCE

DEPARTMENT OF BIOTECHNOLOGY & FOOD TECHNOLOGY

NATIONAL DIPLOMA: BIOTECHNOLOGY

MODULE BTN2BBP
BIOPROCESSING 3

CAMPUS **DFC**

NOVEMBER EXAMINATION

DATE: 10 NOVEMBER 2014 **SESSION: 8:30 – 11:30**

EXAMINER **DR.SUDHARSHANSEKAR**

MODERATOR **Dr.P STEGMANN**

DURATION 3 HOURS **MARKS 192**

NUMBER OF PAGES: 10 PAGES,

INSTRUCTIONS: ANSWER ALL QUESTIONS
ANSWER **SECTION A** ON THE UJ MULTIPLE CHOICE ANSWER SHEET PROVIDED **(DO NOT USE RED INK)**. THERE IS ONLY ONE CORRECT ANSWER FOR EACH QUESTION.
MAKE SURE THAT YOUR NAME OR STUDENT NUMBER IS CLEARLY WRITTEN ON THE UJ MULTIPLE CHOICE ANSWER SHEET AS WELL AS ON YOUR EXAMINATION ANSWER SCRIPT AND QUESTION PAPER
ANSWER SECTION B IN YOUR EXAMINATION ANSWER SCRIPT OR QUESTION PAPER IF SO INDICATED
HAND THE **UJ MULTIPLE CHOICE ANSWER SHEET** IN TOGETHER WITH YOUR **EXAMINATION ANSWER SCRIPT** AS WELL AS YOUR **QUESTION PAPER**

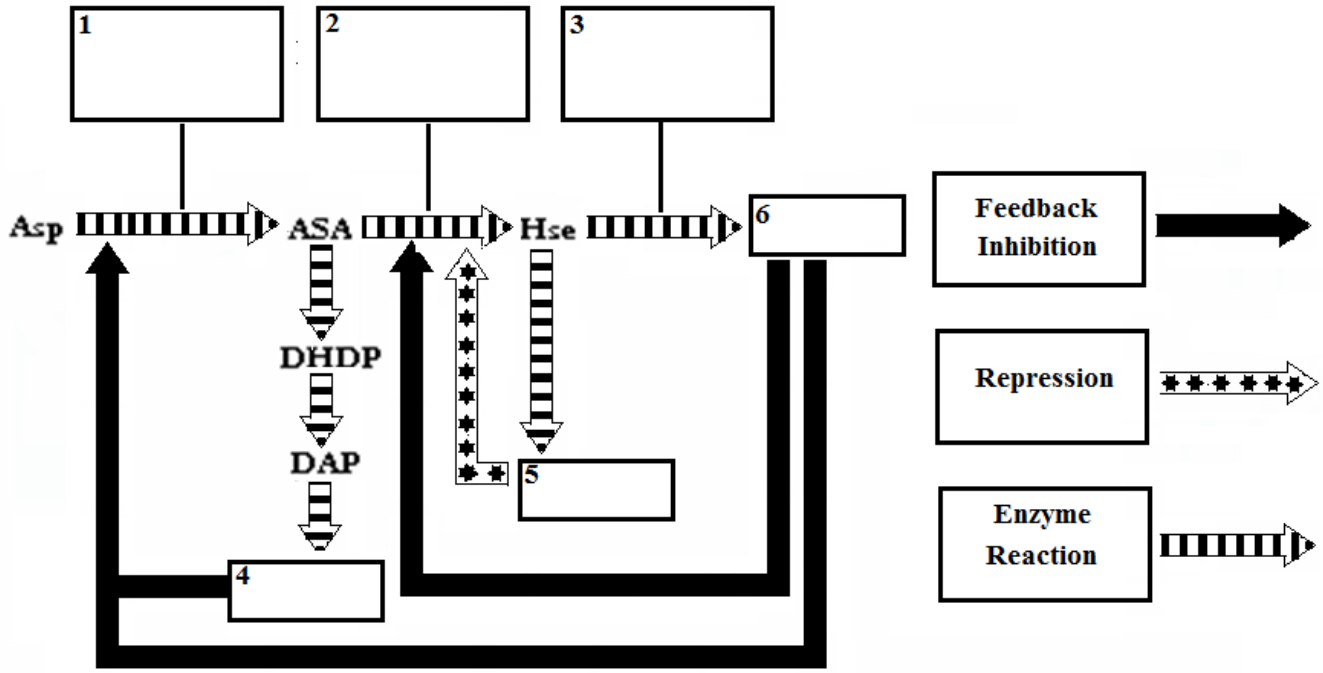
REQUIREMENTS: UJ MULTIPLE CHOICE ANSWER SHEET
EXAMINATION ANSWER SCRIPT

/2…

SECTION B

QUESTION 2

Complete 1-6 on the diagram below. Using the diagram as a guide, explain why larger quantities of Lysine can be produced by Auxotroph mutants and Regulatory mutants than by parent strains. **[12]**



Regulation in Lysine biosynthesis in *Brevibacterium Flavum* and *Corynebacterium glutamicum*

ASA = Aspartate semialdehyde
Hse = Homoserine
DADP = Dehydrodipicolinate
DAP = Diaminopimelate

QUESTION 3

Describe the various roles that **enzymes** and **microorganisms** play in the production of beer. **[30]**

QUESTION 4

Define SCP and production Process of SCP and its Advantages and disadvantages? **[20]**

QUESTION 5

Explain Biochemical process of Vinegar and organism involved in production of vinegar? **[8]**
Explain Production of vinegar by submerged fermentation? **[8]**
Application of vinegar? **[4]**

[20]

QUESTION 6

Explain wastewater treatment processes in detail? **[20]**

QUESTION 7

Give a brief description of Yoghurt Production?
OR
Production of Pickled Cucumbers Starter cultures? **[15]**

QUESTION 8

Define Immobilization? **[2]**
Explain Immobilization methods in detail? **[18]**
Expalin Application of immobilized enzymes? **[5]**
[25]

TOTAL : 192